

## Multifrequency EPR and DENR of polyacetylene composite

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### Abstract

The organo-inorganic composite  $\text{MoCl}_{1.9 \pm 0.1}(\text{C}_{30 \pm 1}\text{H}_{30 \pm 1})$ , a product of interaction of  $\text{MoCl}_5$  with  $\text{C}_2\text{H}_2$ , has been studied by X- and W-band EPR, double electron nuclear resonance, and W-band electron spin echo spectroscopy. The composite consists of nanosized organometallic molybdenum clusters in the polyacetylene matrix. It has been shown that the composite contains three types of magnetic centers: the first is related to the existence of paramagnetic molybdenum atoms in the polyacetylene matrix, and the other two are paramagnetic defects of the matrix. © 2013 Pleiades Publishing, Ltd.

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